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ABSTRACT

This document identifies five strategies that policymakers can use to promote the kind of innovation needed for teaching and learning to be successful. These strategies are as follows: (1) establish a diverse and high-quality approach to teacher preparation that involves solid K-12/postsecondary partnerships, strong field experience, and support for new teachers; (2) ensure that teacher recruitment and retention policies target the areas of greatest need; (3) see that all teachers are able to participate in high-quality professional development so they can improve their practice and enhance student learning; (4) redesign teacher accountability systems so that all teachers possess the skills and knowledge they need to improve student learning; and (5) develop and support strong school and district leadership statewide. The text states a teacher's ability can be the single most influential determinant, outside of family, in student success. It also claims that the success of new academic standards being implemented throughout the U.S. are largely dependent on the quality of the teachers, and it details the unprecedented demands being placed on teachers. The booklet also examines the challenges resident in supplying the demand for teachers, in providing quality teaching, and in agreeing on strategies for teacher improvement. (RJM)

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Five Key Strategies for Policymakers

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Five Key Strategies for Policymakers

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CHAIRMAN'S LETTER

Jim Geringer
Governor of Wyoming
1999-2000 ECS Chairman

A year ago, when I assumed the chairmanship of the Education Commission of the States, I noted that the majority of our nation's schools are unprepared to meet the challenges of the future. If all of America's youth are going to attain the high levels of performance they need to be successful in their lives and which we as a nation need to remain competitive, our schools must improve. We need new structures, new technology, new ways of funding education. We must focus on student competency, not just seat time.

Above all, we need to have effective teachers. Research has clearly documented what each adult remembers from personal experience: an effective teacher is the single most important factor affecting student learning. It's more important than standards, more important than class size, more important than how much money is spent. Each of these is significant, but the quality of teaching dwarfs them all.

If we are going to guarantee quality teaching for all our children, we must also ensure that we have all the teachers we need in a time when we are threatened by a nationwide teacher shortage. We must ensure quality preparation for all our teachers, as well as their continuing professional growth and development. We must ensure that teachers have a supportive and stimulating environment in which to teach, which in turn requires effective school and district leadership. And we must ensure that teachers and their schools, once given the support they need, are held accountable for the success of their students.

During the past year, I worked with 30 distinguished members of an ECS Advisory Council to determine what defines a quality teacher, how those attributes and skills translate into a high level of student achievement and what policies must be put in place to make high-quality teaching and learning happen.

In Pursuit of Quality Teaching: Five Key Strategies for Policymakers is the product of this year-long initiative. The report offers a number of policy options that should guide state and local policymakers in efforts to create an environment that promotes the kind of innovation needed for teaching and learning to be successful. Ultimately, of course, the real changes must take place in the classroom. But the report outlines the policy context in which I believe those changes can happen.

I and ECS will continue our efforts well beyond this initiative to help states improve the quality of teaching for all their students. The information in this report will be incorporated into an interactive and continually revised quality teaching issue page on the ECS Web site. And, over the next two years, ECS will be working directly with policymakers in 25 states to help them in their efforts to implement the kind of policies suggested in the report.

While we, as policymakers, must do all we can to facilitate the achievement of our students, and especially the excellence of their teachers, we must recognize that legislation is not the final answer. Teaching is. Having done our part as policymakers, we must then trust the teachers to do theirs.

Jim Geringer

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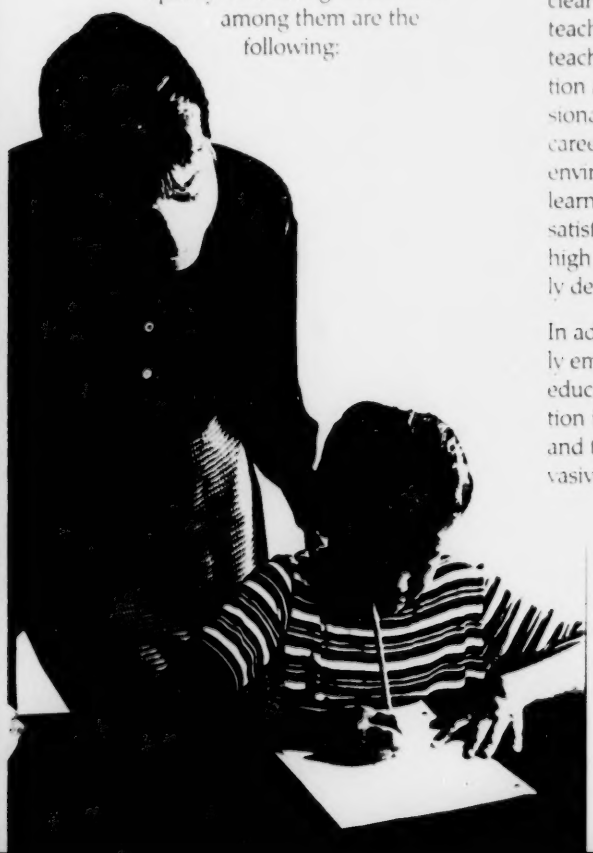
FOREWORD

What can policymakers do to support the improvement of teaching in the nation's public schools? For the past year, the Education Commission of the States (ECS), under the leadership of 1999-2000 chairman, Wyoming Governor Jim Geringer, has focused on this question. Working in concert with an advisory council of political and business leaders, researchers, teachers and other educators, ECS examined major trends in policy and practice, reviewed available research and sifted through an array of reports and recommendations.

Emerging from the debate and discussion surrounding the issue of quality teaching were certain distinct, recurring themes, understandings and expectations – a consensus of factors crucial to enhancing the quality of teaching. Prominent among them are the following:



- Finding new strategies for encouraging qualified people to enter, and remain in, the teaching profession – especially in hard-to-staff schools
- Improving the way we educate teachers and holding the programs that prepare them accountable for imparting the skills and knowledge new teachers need to be successful
- Providing for teachers' ongoing professional growth and development
- Creating new and better mechanisms for holding teachers accountable for student learning
- Developing the leadership capacity of principals, administrators and teachers to support more effective teaching.

Our discussions over the year made it clear that the focus must be on teaching, not just on teachers. Unless teachers receive good initial preparation and support and effective professional development throughout their careers, and unless they work in an environment that promotes student learning and provides professional satisfaction, we can hardly expect the high level of performance increasingly demanded of them.

In addition, our discussions repeatedly emphasized the changing nature of education in response to the evolution in the nature of work, society and the economy; the increasing pervasiveness of technology; and advances in knowledge about teaching and learning. We are challenged to create policies and develop strategies that address the realities of the present yet anticipate and respond to a rapidly changing future. That means being prepared to let go of the status quo and restrictive control, and supporting innovative approaches and the entry of new players on all fronts.

In the end, we came up with the five key strategies listed here, together with a number of more specific and related policy options. These five strategies reflect the consensus of the advisory council. The specific options that follow are supported with varying degrees of enthusiasm.

We believe this report will help policymakers explore their options, evaluate what works and target their resources as they meet the challenge of improving the quality and performance of the nation's teaching force. In addition, we hope the ensuing discussion will provoke the education research community to engage in research that will enhance the strategies proposed.

This report will be augmented by a new, interactive section of the ECS Web site focusing on the quality of teaching. The special "issues page" (at www.ecs.org) will be updated periodically as new information becomes available. In the meantime, we welcome your comments on the current report. Please address them to mallen@ecs.org.

Good Teaching Is Critical

Today, a growing body of evidence confirms what common sense has suggested all along: Good teaching is a make-or-break factor in how well students learn.

A 1991 study of student performance in Texas found that the teacher's ability was the single most influential determinant, outside of home and family circumstances, of student success. A more recent study in Tennessee found that students who had good teachers three years in a row showed a significant increase in their percentile rankings on state examinations – regardless of socioeconomic factors. On the other hand, students who began at exactly the same percentile and had a series of ineffective teachers during that same period showed a significant decrease in rankings. Still another recent study identified comprehensive, focused efforts to improve the quality of teaching as a primary reason for the strong, consistent gains in student reading achievement that Connecticut and North Carolina experienced over the past several years.

For policymakers, the challenge at hand is how to muster the energy, creativity and commitment to ensure that every classroom in America is staffed by a skilled, caring and effective teacher.

Good Teaching Brings Standards to Life

All 50 states are in the process of implementing major education reforms built around academic standards that embody high expectations for all students. Forty-nine are implementing state-based standards, and one, Iowa, is implementing standards at the local level. The success of these efforts hinges on, more than anything else, the ability of teachers to bring the new standards to life in their classrooms.

The emergence of standards as the linchpin of education reform reflects a growing recognition that today's economy requires a versatile and highly skilled workforce capable of keeping pace with rapid social and technological change. High-wage, low-skill jobs are no longer plentiful, and all students now must have mastery beyond basic reading, writing and arithmetic if they are to be successful. Not just in high-tech fields, but across a wide range of occupations, employers want workers with a broad set of skills and abilities – people who can read, write and speak effectively, analyze problems and set priorities, learn new things quickly, take initiative and work in teams.

These same skills, together with a sense of civic purpose and responsibility, an informed respect for the past and a confident anticipation of the future are also necessary if today's young people are to continue to strengthen the democratic traditions and measurably enrich the nation's culture.

In shifting to a standards-based education system, the assumptions are (1) that every student is capable of achievement and entitled to rich, challenging and engaging work and to meaningful participation in shaping society, and (2) the role of schools is to see that students are given the opportunity and helped to make it over the high bar. For two-thirds of the nation's students, the public schools have served them successfully in that effort. For the other one-third, who come primarily from low-income families, schools must do much better.

Unprecedented Demands on Teachers

The goal of implementing standards-based education places great demands on teachers, who already are struggling to cope with a growing and increasingly diverse population of students, an estimated one-third of whom enter school ill-prepared for learning.

Because of this disparity in student proficiency and readiness, and because children learn at different paces and in different ways, teaching in a standards-based system calls for a broader repertoire of instructional skills and strategies. It requires educators to have the ability to integrate subject matter instead of compartmentalizing it; to teach for understanding; to use technology, hands-on projects and original material to enhance learning opportunities; to develop new methods of assessing student learning; and to use assessment data to inform and improve the teaching and learning process.

In a growing number of states, the issue of how to equip teachers better for these new challenges has risen to the top of the reform agenda. Across

the nation, states have undertaken a variety of initiatives affecting all aspects of teaching. In addition, states are examining their capacity to develop and nurture strong educational leadership, understanding that high-quality leadership is a critical factor in high-quality teaching.

At the 1999 National Education Summit last fall, improved teaching topped the list of issues viewed as critical to realizing standards' full potential to bring about change and improvement in public education. Governors, business leaders and educators pledged to work together to strengthen entry and exit requirements for teacher preparation programs, devote more resources to professional development and develop competitive salary structures for teachers and principals.

The path to improved teaching quality presents enormous challenges, but it also presents unparalleled opportunities to seek innovative approaches that may work better than current ones, especially in addressing the needs of our most poorly served students.

The Challenge of Supply and Demand

One-third of new teachers leave the profession within five years, creating a constant demand for new hires. The demand will intensify over the next decade as student enrollment continues to grow, states implement class-size reduction initiatives, and hundreds of thousands of "baby-boom" generation teachers become eligible for retirement.

Shortages of qualified teachers are common in certain parts of the nation, in perennially hard-to-staff schools and in certain subject areas – particularly mathematics, science, bilingual and special education – as college graduates are lured away from teaching by competing, better-paying career options. In California, Texas and other states experiencing rapid population growth, regulations are routinely waived, especially in hard-to-staff schools, to allow the hiring of teachers who haven't fully met state licensing standards. Moreover, even licensed teachers often are assigned "out-of-field" classes for which they are neither trained nor certified to teach.

The Challenge of Quality Teaching

The shortage of teachers thus clearly heightens a second challenge – ensuring the quality of the learning children achieve. More than one-quarter of new teachers enter the profession either under temporary or emergency licenses or with no license at all. And an estimated one-third of all U.S. teachers each year are assigned at least one class a day for which they lack solid subject-matter knowledge. The situation is most acute in schools in high-poverty rural and urban areas, which face even more serious staffing challenges because many teachers would rather teach elsewhere.

A growing number of states and districts are trying out strategies – including salary increases, signing bonuses and alternative routes into the profession – to attract more teachers. But while such measures might broaden the pool of potential teachers, it will take more than higher salaries to keep them in the classroom. Teachers also need support and encouragement if they are to remain – and grow – in their profession. And they need solid education and training, both before they enter teaching and throughout their careers, in order to be successful.

Many states are seeking ways to improve the quality of teacher preparation and professional development and to ensure, through licensure and accountability systems, that the teachers who do enter the profession are adequately prepared and remain effective throughout their career.

Disagreement Over Strategy

A third challenge to improving the quality of teaching in our nation's classrooms is a lack of consensus on the most effective strategies. A significant number of educators and policymakers support strategies advocated by the National Commission on Teaching and America's Future (NCTAF). NCTAF recommends the overhaul of the existing university-based teacher education system and stringent requirements for entry into and career advancement in the teaching profession, both of which would be governed primarily by the profession itself through various state- and national-level bodies.

Opponents of this approach favor a less-regulated strategy, represented most visibly by the Thomas B. Fordham Foundation. This strategy advocates a more open entry into teaching, a more market-driven salary structure, and a career advancement system linked with school-based accountability and to standards-based student achievement. Part of this report's task is to articulate a path that pushes for agreement among these and other approaches to improving teaching, while recognizing that a complete consensus may not be possible because of philosophical and ideological differences.

New and Far-reaching Solutions

Regardless of the philosophy followed, solving the teacher-quality problem will require a more comprehensive approach than most states have been willing or able to commit to thus far. What is needed is a total overhaul of the way teachers are recruited, prepared and licensed; the way schools support teaching and provide opportunities for professional growth; and the way states, districts and schools assess and reward teachers' work.

While policymakers must identify and, if necessary, refurbish those familiar approaches that still can be effective, there is no choice but to support the development of new strategies and solutions and the entry of new players into roles they have not previously assumed. In fact, this is happening already as business leaders and business practices increasingly shape education content and delivery, as once-rigid boundaries between K-12 and postsecondary education become more fluid, as technology becomes more and more pervasive in the classroom, and as private, even for-profit, providers enlarge their role in an expanding education market.

The Purpose of This Report

This report is designed to provide policymakers with a digest of useful information for addressing the most urgent and critical issues involving the quality of teaching:

- Preparation and induction
- Recruitment and retention
- Professional development
- Licensure, evaluation and accountability
- School and district leadership.

Five key strategies are recommended, along with additional guidelines or "policy options." Each policy option is followed by a paragraph that puts it in context and notes its limitations. Discussion of the strategies includes a brief summary of the relevant research and expert consensus around the options offered, a review of state policy trends and a list of selected readings, Web sites and other sources of information. Additional references are at the end of the document.

As the ensuing discussion makes clear, the specific policy options cited are not offered with an equal degree of authority. Some have the weight of strong research evidence and successful experience to support them. The report refers to these as "Best-Supported Policy Options." Other options, however, rest only on a broad, unproven consensus of policymakers and education experts. In a few cases, the consensus is even narrower, but the options are included because they capture a rising tide of favorable opinion. These are referred to as "Less-Supported Policy Options."

This report is not intended as a foolproof prescription. Rather, it provides a thoughtful path through a welter of varied philosophies and strategies. ECS hopes it will lead to further and more considered discussion and end in effective action to improve the quality of teaching in the states and thus bring state standards to life in the classrooms. ECS is poised to play a helpful, facilitative role in further discussion and action.

Related Resources

Organization Web sites:

- Education Commission of the States: www.ecs.org
- Center for the Study of Teaching and Policy: http://depts.washington.edu/ctpmail/
- Consortium for Policy Research in Education: www.gse.upenn.edu/cpre/
- National Commission on Teaching and America's Future: www.tc.columbia.edu/~teachcomm/
- Southeast Center for Teaching Quality: www.teachingquality.org
- Thomas B. Fordham Foundation: www.edexcellence.net

Other resources:

- *Assuring Teacher Quality: It's Union Work.* (1999). American Federation of Teachers. Can be downloaded from the AFT Web site at www.aft.org//Edissues/downloads/assuretq.pdf
- *Better Teachers, Better Schools* (1999). Thomas B. Fordham Foundation. Can be downloaded from the Fordham Foundation Web site at www.edexcellence.net/better/tchrs/teachers.html
- *Getting Beyond Talk: State Leadership Needed To Improve Teacher Quality* (1999). Southern Regional Education Board, 1999. Can be downloaded from the SREB Web site at www.sreb.org/Main/EducationPolicy/Benchmarks2000/teacherquality.html
- *Good Teaching Matters: How Well-Qualified Teachers Can Close the Gap* (1998). Education Trust. Can be downloaded from the EdTrust Web site at www.edtrust.org/K16.pdf
- *Promising Practices: New Ways To Improve Teacher Quality* (1998). U.S. Department of Education. Can be downloaded from the department's Web site at www.ed.gov/pubs/PromPractice/index.html
- *Quality Counts 2000: Who Should Teach?* (2000). *Education Week.* Can be accessed or ordered online at www.edweek.org/sreports/qc00/
- *What Matters Most: Teaching and America's Future* (1996). National Commission on Teaching and America's Future. Can be downloaded from the NCTAF Web site at www.tc.columbia.edu/~teachcomm/WhatMattersMost.pdf
- *Two Paths to Quality Teaching: Implications for Policymakers* (2000). Education Commission of the States. Can be downloaded from the ECS Web site at www.ecs.org.

STRATEGY 1

Ensure a diverse and high-quality approach to teacher preparation that involves solid K-12/postsecondary partnerships, strong field experience and good support for new teachers.

1

Policy Options

Best-Supported

Ensure that teacher preparation programs address state K-12 student standards and school performance expectations as a central focus of their curricula.

Student achievement standards, and the accountability systems that enforce them, remain the engine of education reform in the United States. The preparation of teacher candidates must include understanding of the standards and what it takes to enable students to achieve them. Candidates should know their subject matter, demonstrate the ability to teach it to diverse groups of students and be able to assess student learning effectively.

Increase cooperation between postsecondary education and the K-12 system to align teacher preparation with K-12 standards.

K-12/postsecondary cooperation is critical if teacher preparation programs are to align with K-12 standards. But knowledge of the standards must be accompanied by effective field experience and good induction and mentoring programs. While there are some promising isolated efforts to create strong K-12/postsecondary partnerships, the cultures of the two systems are quite diverse and not always easily brought together. In particular, the incentive and reward structures in postsecondary education – especially tenure and promotion policies in four-year colleges and universities – are a formidable obstacle to much-needed collaboration among institutional faculty and classroom teachers. Policymakers can play an important role in addressing faculty incentives and rewards within their own state postsecondary institutions. Turf battles between state agencies that regulate or govern K-12 and postsecondary education might be resolved through innovative new K-16 finance and governance systems.

Within postsecondary education, increase the cooperation between the colleges of arts and sciences and colleges of education.

Given the importance of subject-matter knowledge, it is critical for arts and sciences' faculty to be involved in teacher preparation. Again, however, the culture of higher education has inhibited such cooperation. College and university presidents, as well as provosts, academic vice presidents, and education and arts and sciences deans can, and should, remove any such obstacles.

Promote the development of beginning teacher support and induction programs.

By all accounts, the first year of teaching is the most difficult for new teachers. But there is evidence that teachers who receive strong first-year support and induction to round out their formal teacher preparation are more likely to succeed and remain longer in the teaching profession. This is particularly true when induction programs help new teachers understand and address the culture and priorities of the specific schools and districts in which they are working. Good induction programs require a significant commitment of resources, including skilled and well-trained mentor teachers, classroom-based research and adequate time for new-teacher support. Such programs also benefit from strong K-12/postsecondary cooperation. What is unclear about beginning teacher support and induction, however, is to what extent they should be a state, district, individual school or preparation institution responsibility. It is also unclear whether a more universally field-based approach to teacher preparation would lessen the need for, and the value-added of, separate beginning teacher support efforts.

Policy Options

Less-Supported

Ensure that state accountability and assessment policies guarantee that new teachers have acquired the content knowledge and teaching skill necessary to advance student learning and school performance.

States have employed a variety of mechanisms to ensure teacher candidates have subject-matter competency and the skills to help students master content. Some mechanisms, such as raising admission standards and testing new teachers, put the responsibility for mastery on prospec-

tive teachers. Others hold the teacher preparation program responsible. Some of the latter, such as external program accreditation, focus on program inputs rather than candidate achievement, although one accrediting body, the National Council for the Accreditation of Teacher Education, has adopted more performance-based evaluation criteria. Vehicles focused on outputs are geared toward guarantees of graduate quality by evaluating and ranking preparation programs on various measures of graduate performance. Policymakers should seek to ensure that their state's mechanisms are ultimately focused on results – that is, student performance. If this is not the case, they should develop appropriate accountability and assessment strategies that are free of political and institutional self-interest, aligned with K-12 student standards and consistent with the best available information about the important characteristics and skills of beginning teachers.

Promote high-quality alternative pathways into teaching, particularly those that effectively reach minority and nontraditional teacher candidates.

Most states must look beyond traditional undergraduate teacher preparation programs for the teachers they need. For starters, they can tap the growing number of mid-career adults whose interest has shifted to teaching, particularly as a way to increase minority representation in the profession. State leaders also need to develop new kinds of preparation programs and support the entry of new players – such as community colleges and for-profit providers – into the picture. While it is important to give aspiring teachers as much relevant training as possible before they enter the classroom, a number of highly successful alternative programs – often serving hard-to-staff schools – place candidates in well-supervised beginning teaching positions while they concurrently take collateral, job-related coursework.

Policy Options

Supporting Evidence

State-level policy is essential to achieve systemwide change, especially to overcome resistance to change at the institutional level. This is particularly crucial if states are to continue to use K-12 standards as the benchmark against which they measure the success of their efforts to improve public education and as the linchpin of an aligned system that assures quality teacher preparation. Such alignment requires greater cooperation between the K-12 and postsecondary sectors, and states increasingly are expanding such partnerships.

There is strong consensus that the state has an important role to play in ensuring the adequacy of new teachers' knowledge and skills, although some would restrict the state role to a bare minimum. Consensus is lacking, however, on the most effective rewards and sanctions to facilitate that objective and on the most appropriate vehicles to carry it out. While there is support in some circles, for example, for a professional credentialing or licensing agency independent of state K-12 and postsecondary boards, consensus on the utility of such an agency is lacking. Similarly, while consensus is growing in favor of an external national or regional teacher accreditation body, there is disagreement over the best model for such accreditation and concern that the state's role in the accreditation process not be preempted.

Although evidence is mixed on the impact of the kinds of accountability strategies outlined above, there is agreement that appropriate accountability mechanisms for teacher preparation programs are important. External accreditation based upon performance-oriented measures has helped to improve program quality at individual institutions. State-level systemic change, however, has not been widespread.

Output-based efforts, such as the comparative ranking of preparation programs, can lead to success when tied to appropriate rewards and incentives, but they are too new to assess meaningfully. Moreover, without new data collection and analysis over time, it is difficult to determine how much of a new teacher's success or failure is the responsibility of the teacher preparation program and how much is due to other factors. Thus, accountability policies for teacher preparation programs need to be developed carefully, but they nevertheless should be pursued.

When it comes to specific improvements in the quality of teacher candidates and preparation programs, however, both the consensus and the evidence for the policy options suggested are strong. Because there is a

significant correlation between solid subject-matter mastery and increased student achievement, teacher candidates must demonstrate adequate subject knowledge. The argument for a subject-major requirement on the secondary level is more obvious than what level of subject knowledge should be required for elementary school teachers.

Research also indicates that subject-specific pedagogy enhances a teacher's ability to teach the subject to a broad range of students. How much additional education coursework is necessary, and whether much of that coursework can be replaced by solid field experience, is unknown. Nonetheless, good field experience should be an essential component of teacher preparation. Delivery can be accomplished through professional development schools, partner schools or some other arrangement as appropriate.

Beyond subject-matter mastery and basic pedagogical skills, additional research is needed to determine which additional skills a teacher preparation program should imbue in its graduates. For example, the Interstate New Teacher Assessment and Support Consortium has articulated a set of beginning teacher standards as the basis for its program accreditation criteria. While many educators and policymakers support them, critics believe they are not grounded strongly in research about teacher effectiveness, are overly prescriptive and would restrict worthy candidates from entering the teaching profession. In any event, such standards and criteria are tools that can help leverage systemic change if policymakers are committed to it.

Well-designed and well-funded beginning teacher support and induction programs are widely supported. The appropriate locus of responsibility for such programs, however – whether teacher preparation institutions, individual schools, district governing boards, state regulators or a combination thereof – varies from state to state. The success of field-based alternative preparation programs that combine induction with a first-year teaching experience supports establishment of joint partnerships among schools, districts and preparation program providers, possibly with additional state support.

Alternative preparation programs continue to gain support as well. There is some evidence that teachers who graduate from a well-designed alternative program may perform as well as, and remain in the profession as long as, teachers who are the product of a high-quality, more traditional preparation program.

State Trends

States are becoming much more serious about increasing the accountability and quality of teacher preparation programs and about supporting viable alternatives to traditional teacher education. Colorado, for example, has strengthened program requirements, especially for field experience, subject-matter mastery and the demonstrated ability to teach to K-12 standards. North Carolina has embraced five-year teacher education programs, while Pennsylvania has focused on providing quality teachers who graduate in four years. Georgia has chosen to hold teacher preparation programs accountable for the performance of their graduates on licensure exams or in the classroom.

Prompted by new federal Title II requirements that require all states to rank their teacher preparation institutions, states also are developing accountability criteria. In addition, efforts are under way to help several states implement recommendations of the 1999 American Council on Education report urging college presidents to make teacher education a central, campuswide priority.

The slowness of teacher education reform and the failure of traditional programs to serve the needs of the rising number of nontraditional candidates have caused most states to permit alternative preparation routes. Typically, because teachers are urgently needed, such programs place teacher candidates in the classroom while they are still working toward licensure. In most states, these alternative programs are offered by four-year colleges and universities, although a few, including Minnesota, have given local districts the authority to develop and deliver their own field-based preparation programs. Hawaii is among the states that have elected to take advantage of the potential pool of teacher candidates who attend two-year institutions. Maryland now permits for-profit providers to prepare teachers for licensure.

As a follow-up to teacher preparation, states are becoming increasingly interested in induction. Many states require first-year induction programs for new teachers, although state support and quality assurance for such programs vary widely. The most committed states, such as Connecticut and California, provide substantial

SOME HELPFUL RESOURCES

funding for their induction programs, as well as training and salary incentives for mentor teachers.

At least one state – Texas – provides special incentives to its teacher preparation institutions to prepare teachers specifically for hard-to-staff schools and high-demand academic subject areas. Teacher preparation programs, especially public programs, should be encouraged to respond to their state's specific teacher needs.

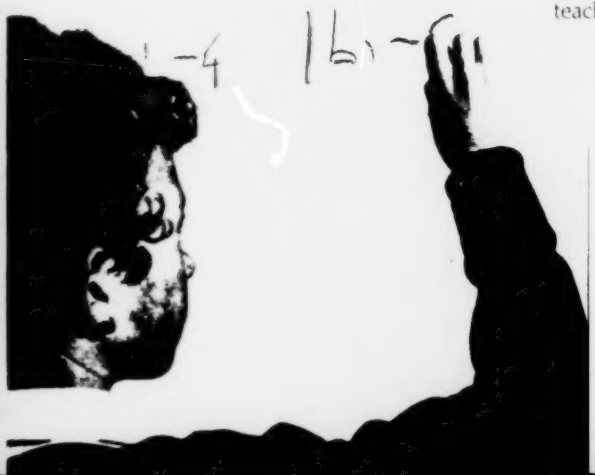
Related Resources

Organization Web sites:

- American Association of Colleges for Teacher Education: www.aacte.org
- Center for Educational Renewal: www.depts.washington.edu/cedren/index.html
- Council for Basic Education: www.c-b-e.org
- Holmes Partnership: www.holmespartnership.org
- National Center for Education Information: www.ncei.com
- National Council for the Accreditation of Teacher Education: www.ncate.org
- State Higher Education Executive Officers: www.sheeo.org
- Teacher Education Accreditation Council: www.teac.org

Other resources:

- *Creating a Teacher Mentoring Program* (1999). National Foundation for the Improvement of Education. Can be downloaded from the NFIE Web site at www.nfie.org/mentor2.htm
- *Learning the Ropes: Urban Teacher Induction Programs and Practices in the United States* (1999). Recruiting New Teachers. Can be ordered from the RNT Web site at www.rnt.org/publications/products3.html
- *Preparing Quality Teachers: Issues and Trends in the States* (1998). State Higher Education Executive Officers. Can be ordered through the SHEEO Web site at www.sheeo.org
- *Teacher Quality and P-16 Reform: The State Policy Context* (1999). SHEEO. Can be downloaded from the SHEEO Web site at www.sheeo.org/pubs/transitions-sb-tchr-qual-p16.pdf
- *To Touch the Future: Transforming the Way Teachers Are Taught* (1999). American Council on Education. Can be downloaded from the ACE Web site at www.acenet.edu/about/programs/programs&analysis/policy&analysis/teacher-ed-report/home.html



STRATEGY 2

Ensure that teacher recruitment and retention policies target the areas of greatest need and the teachers most likely to staff them successfully in the long term.

2

Policy Options

Best-Supported

Address the counterproductive working conditions that exist in many schools.

Few strategies to recruit and retain good teachers can overcome a dysfunctional school environment; teachers are unlikely to remain in a stressful job that lacks personal satisfaction. Moreover, since the very reason for recruiting and retaining teachers is to increase student learning, any school culture that thwarts that objective is unacceptable. Strategies to address counterproductive working conditions include giving low-performing schools financial and other support to restructure themselves and imposing performance accountability measures. Stigmatizing low-performing schools with the brand of failure, however, and not giving them credit for the value added to their students' performance, may chase away the best teachers and prevent these schools from recruiting other talented individuals.

Develop recruitment and preparation strategies that target nontraditional populations.

Programs that target mid-career professionals, teachers' aides, minorities and "home-grown" candidates are likely to be the most successful. Older students with family responsibilities may require financial assistance (such as a modest salary for teaching duties during their preparation program), child care and other support. Some candidates, including those who live in isolated rural areas, may require increased access via satellite or other distance-learning programs. Preparation programs for older candidates may need to be accelerated, but need not compromise quality.

Support high-quality beginning teacher support and induction programs.

This strategy is discussed in more detail in the previous section of this report.

Provide greater opportunities for career growth and professional development

Teachers who can grow and continue to learn throughout their career will be more effective and thus derive greater satisfaction from their work. The importance of professional development will be discussed in greater detail in the next section.

Policy Options

Less-Supported

Provide more opportunity to reward the demonstrated knowledge and skill of successful teachers.

If top candidates with other career options are to be attracted to teaching in significant numbers, and if good teachers are to stay in teaching, more than rewards for successful teachers is needed. Certification by the National Board for Professional Teaching Standards (NBPTS) is one step in this direction, especially when it is accompanied by the salary increases and other incentives many states provide to teachers who achieve it. Ultimately, however, school systems should develop a more comprehensive career path reflecting multiple levels of professional status and competence through which teachers can move based on their demonstrated knowledge and ability – not on their length of service. Several such structures have been proposed, including one by the Milken Family Foundation. The implementation of any such structure, however, is likely to require the renegotiation or replacement of collective-bargaining agreements, as well as changes to state licensure and certification policies and regulatory requirements.

Offer incentives for new and veteran teachers to teach in hard-to-staff schools and high-demand subject areas.

Incentives must be large enough to be attractive and make it probable that recipients will stay in their assignment for several years. If current trends continue, only salaries for the most senior teachers are likely to approach those that teachers might earn in alternative professional careers in the private sector. Nevertheless, market considerations must enter in if teachers are to be recruited into hard-to-staff disciplines and schools. Policymakers and state education leaders can work with individual teachers or unions to develop an incentive and salary structure that makes this possible. States can ensure that poorer schools and

districts have the resources to offer salaries and other incentives competitive with those offered by wealthier districts. Otherwise, these schools risk being unable to attract the best new teachers, as well as retain the teachers they already have.

Develop programs and policies that streamline the hiring process for teachers and make it more difficult to place teachers in classes for which they have poor subject-matter preparation.

Offering financial support and technical assistance to district personnel offices, especially poorer ones, or establishing a statewide teacher recruitment program that supports district efforts may level the playing field. Regardless of the teacher shortage, states must discourage schools from assigning teachers to courses for which they are inadequately prepared. This may require a change in licensure requirements or the implementation of statewide performance accountability policies. States also should work with teachers individually or through their unions to develop good collective-bargaining agreements – or other alternatives – that do not give job selection privileges simply on the basis of seniority.

Develop policies and programs that enhance the quality of school and district administrative leadership.

Administrative leadership plays an essential role in supporting continued teacher career growth and in helping to nurture a positive school environment. The importance of leadership and promising strategies to promote it will be discussed in greater detail under the final strategy suggested in this report.

Policy Options

Supporting Evidence

Although the research and evaluation information on the various strategies used to recruit and retain teachers is uneven, several enjoy widespread acceptance among education experts and have good research and evaluation data to support them. Teacher polls and behavior consistently confirm that the problems of inhospitable schools must be addressed if good teachers are going to work in them. Opportunities for professional development and career growth rank high with both teachers and experts. Both research and opinion agree that well-designed beginning teacher support and induction programs contribute significantly to a school's ability to recruit and retain new teachers.

There also is evidence and consensus that targeting teacher-recruitment programs at specific populations can be successful. Retention and teacher success rates are high for programs that seek out candidates for hard-to-staff, high-minority schools. There is some evidence that precollege recruitment efforts attract young people into the teaching profession, although not necessarily for the long term in hard to-staff schools or high-demand subjects. More research is needed to discern the contribution of specific retention efforts from that of well-conceived preparation programs.

Although some districts that have focused on improving their hiring process report success in attracting good teachers, these reports are largely anecdotal. Added research could shed some light on whether the large bonuses and better salaries that some states and districts are able to offer do lure good teachers who otherwise would not teach there. Likewise, while offering prospective math and science teachers salaries competitive with what they could receive in the private sector could attract more people to teaching, research is needed to substantiate that.

What is most uncertain about financial incentives, however, is their long-term impact. Since highly desirable teacher candidates often have other career options, offering financial incentives to "the best and the brightest" may be only a short-term fix unless the issues of career advancement and salary satisfaction are addressed. Bidding wars between poor and wealthy states and districts also may not generate long-term solutions. Raising teacher salaries across the board and creating a career ladder that allows for significantly greater professional and salary recognition at the upper end could make

teaching more attractive and entice more able and committed candidates. These efforts, too, need further documentation and evaluation to assess their impact.

Another relatively unstudied factor in the recruitment and retention of teachers is that of mobility. Increasingly, education leaders and other experts have come to believe that interstate license reciprocity and interdistrict pension portability may have a significant impact on districts' ability to recruit and retain good teachers. The State Higher Education Executive Officers organization is coordinating a study of these issues and their policy implications, which is scheduled to be published by fall 2000.

Successful though these various recruitment and retention strategies may be in many cases, they may not adequately address the problems faced by isolated rural districts. These districts ultimately may have to content themselves with a small core of "home-grown" teachers complemented by a continually changing cast of outside recruits who remain only for several years.

State Trends

The recruitment, hiring and retention of teachers remain largely district-level responsibilities. States, however, increasingly are becoming involved in strategies that complement district recruitment efforts, particularly for hard-to-staff schools and high-demand subjects. Such strategies include Mississippi's loan-forgiveness and scholarship programs; signing bonuses that involve moving expenses or, in Massachusetts, housing subsidies; general salary increases to make teaching more attractive across the board as in Oklahoma; and targeted salary increases for individuals willing to teach in hard-to-staff schools or high-demand subjects, as Georgia is doing. Maryland is among states paying retired teachers to reenter the classroom part time without losing their retirement benefits.

South Carolina has statewide early-recruitment programs that seek to make teaching an attractive career option for high school students. California and Nevada have targeted recruitment strategies at specific populations. And states within the mid-Atlantic, Southeast and North Central regions are cooperating to increase license reciprocity and pension portability across state and district boundaries.

Several states are making progress on the hiring and placement front. Florida is helping districts streamline their hiring procedures and set up statewide job banks. Arkansas is restricting districts from placing teachers in classes for which they lack solid subject-matter preparation.

States such as Connecticut are developing strategies specifically aimed at retaining new teachers through induction programs that include financial incentives tied to demanding standards for the training of mentor teachers and the amount of supervision beginning teachers are required to receive. North Carolina prohibits districts from giving particularly difficult assignments to beginning teachers until they have had a chance to learn the ropes.

Career growth and teacher recognition strategies, such as NBPTS certification, also are popular. Some states pay all or part of the certification cost, while others, such as Ohio, offer sizable bonuses or pay increases for teachers who become certified.

A number of states and districts are seeking to restructure their lowest-performing schools by adopting a comprehensive school reform design model, as in Memphis; hiring a private contractor to run the school, as Maryland has done; or converting to charter-school status as done in Colorado. In addition, as will be discussed in the fifth strategy section of this report, states are beginning to put a greater emphasis on the responsibility of school and district administrative leadership for enabling teachers to be effective.

2 SOME HELPFUL RESOURCES

Related Resources

Organization Web sites:

- American Federation of Teachers: www.aft.org
- Milken Family Foundation: www.mff.org
- National Education Association: www.nea.org
- Recruiting New Teachers: www.rnt.org

Other resources:

- *A Matter of Quality: A Strategy for Assuring the High Caliber of America's Teachers* (1999). Milken Family Foundation. Can be downloaded through the Milken Web site at www.mff.org/pubs/full_text1999.pdf
- *Ensuring Teacher Quality and Supply: A State and Regional Approach* (1999). National Association of State Boards of Education. Can be ordered through the NASBE Web site at www.nasbe.org/catalog.html# Standards, Assessment and Accountability
- "Focusing Policy on Hard-to-Staff Schools" (2000, Spring-Summer). *State Education Leader.* Education Commission of the States. Can be ordered from ECS at 303-299-3692.
- *Issues of Supply and Demand: Recruiting and Retaining Quality Teachers* (1999) (audiotapes and guidebook). North Central Regional Educational Laboratory. Can be ordered from the NCREL Web site at www.ncrel.org/catalog/
- *Recruiting and Retaining Effective Teachers for Urban Schools* (1999). National Partnership for Excellence and Accountability in Teaching. Can be ordered from NPEAT at 301-405-2341
- "Teacher Shortage: False Alarm?" *The Merrow Report* (1999) (videotape). Learning Matters Incorporated. Can be ordered through the PBS Web site at www.pbs.org/merrow/sales/salesform.html
- *Teacher Supply and Demand in the United States* (1999). American Association for Employment in Education. Can be ordered from the AAEE Web site at www.aaee.org
- *Teacher Supply and Demand: Is There a Shortage?* (2000) National Governors' Association. Can be downloaded from the NGA Web site at www.nga.org/Pubs/IssueBriefs/2000/Sum000125Teachers.asp
- *Toward an Open Teacher Hiring Process* (2000). Boston Plan for Excellence. Can be downloaded from the BPE Web site at www.bpe.org/publications.asp
- *The Urban Teacher Challenge: Teacher Demand and Supply in the Great City Schools* (2000). Recruiting New Teachers, Council of the Great City Schools, Council of the Great City Colleges of Education. Can be downloaded from the RNT Web site at www.rnt.org/quick/utc.pdf

STRATEGY 3

Ensure that all teachers are able to participate in high-quality professional development so they can improve their practice and enhance student learning.

3

Policy Options

Best-Supported

Set high standards for professional development and establish policies that support those standards.

Policymakers and educators must become familiar with the elements of adult learning that make professional development effective. Incentives should motivate teachers to gain the skills and knowledge they need to grow in their careers and help their students achieve in a standards-based system. Policymakers, district leaders and teachers should not just put money on the table for professional development and then ignore how it is spent. Making significant decisions in the absence of good data about the state's current professional development policies and practices likewise is unacceptable. At the same time, policymakers must understand that many decisions about effective professional development are best left to districts and individual schools.

Ensure that professional development is a core component of school reform initiatives across the state.

Researchers and policymakers agree that investing in effective professional development opportunities can be one of the best ways to help principals and teachers increase student achievement. Unfortunately, a significant amount of professional development activity in the past has not resulted in improved teaching practice or increased student achievement. But, like other professionals, teachers must keep up with changes in their field and be able to respond to the changing social context of their work. Policymakers and educators must make the case to their constituents that investment in sound professional development will lead to enhanced student learning.

Expand teachers' access – particularly in hard-to-staff schools and isolated rural districts – to effective professional development opportunities.

Two complementary strategies are needed to expand access to good professional development opportunities. First, states should establish a clearinghouse – easily accessible to principals and teachers – of promising professional development programs and strategies, including models developed by individual schools and districts, as well as by outside providers. Such a system would promote the sharing of professional development expertise across the state. Second, states and districts should ensure that all schools have the resources, time and money to participate in effective professional development. The resources should be made available through a combination of outside sources and reallocation of existing funds.

Enable schools and districts to incorporate professional development into teachers' routine work.

To establish effective professional development programs, districts and schools need both flexibility and support, particularly to integrate professional development activities into the school day and week. Policymakers need to exercise leadership in educating parents and the public about the importance of making adequate time available for professional development.

Policy Options

Less-Supported

Work with districts and teachers to make it easier to match teachers with schools that have adopted a particular instructional philosophy.

If professional development is to be aligned with schoolwide priorities, it is critical that an entire teaching staff adopt those priorities. Effective schools have a clear focus on what they want to accomplish and how to go about accomplishing it. Teachers who disagree with the strategies a school has adopted for reform should be encouraged to transfer to a school whose approach may be more suited to their interests and ideas. Otherwise, efforts to establish a true professional learning community in the school will be hindered. In addition, schools that have adopted a particular instructional focus should be able to define the most suitable qualifications for the candidates they seek to hire. Too many collective-bargaining agreements and seniority rules preclude either of these approaches. State policymakers can exercise leadership in addressing these issues.

3 STRATEGY 3

Policy Options

Supporting Evidence

Researchers and policy analysts agree that high-quality professional development is critical to education reform and instructional improvement and does the following:

- Focuses on the intersection of content and pedagogy
- Includes opportunities for practice, research and reflection
- Is embedded in educators' jobs and takes place during the regular school schedule
- Is sustained over time
- Reflects the principles of adult learning theory in its content and format
- Includes and fosters elements of collegiality and collaboration among teachers and principals.

Adults learn most meaningfully when they are actively engaged in a learning activity and rely on personal experiences to solve problems at hand. Implications from adult learning theory for teacher professional development include the following:

- For teachers to change how they teach, professional development must extend well beyond the transmission of knowledge and focus on analytic and reflective learning.
- For professional development to be relevant and engaging, it must be focused on the problems of participants and reflect their input.
- Adults learn best when they share power and authority with their instructors.

One recent study of high-performance organizations, conducted by the Center for Workforce Development at the Education Development Center (EDC), concluded that most learning in organizations occurs informally. High-performance organizations value informal learning and the contribution it makes to achieving larger organizational goals, the EDC report said. Contrary to these conclusions, most state and local professional development programs distinguish between professional development and job responsibilities. Treating professional development as a discrete, "outside-the-job" activity severely limits its effectiveness and discourages schools from exploiting more informal opportunities for teachers to learn.

Unfortunately, there are few, if any, states or districts that use professional development as an effective vehicle for improving teachers' ability to teach to student content standards and to work toward school and district improvement goals. Instead, teachers patch together a career-long curriculum of professional development in odd and assorted ways. Some teachers pursue any opportunity to learn with passion, while others only attend workshops when mandated to do so. Districts are just beginning to incorporate professional development into their larger school improvement strategies. As this trend accelerates, there will be a shift from a supply-side professional development system to a demand-driven system, with significant consequences for the character and alignment of professional development programs.

There is general consensus that the organizational culture of the school is an important factor in determining whether teachers participate in professional development and what impact that participation has. School cultures that encourage collegiality, reflection, risk taking and collaborative problem solving facilitate effective professional development. In these schools, there is a collective focus on students and a shared responsibility for student learning. Some schools take advantage of career-ladder or team-teaching schemes to allow outstanding teachers to mentor new teachers and offer professional development opportunities to colleagues.

School and district cultures also have an impact on the time made available for professional development. Typically, professional development is relegated to after-school sessions or some other out-of-school time – separating it from the workday and from the workplace – and contradicting the fundamental characteristics of effective professional development.

Finally, schools and districts vary in their ability to access providers of high-quality professional development. This problem can be particularly acute for rural and urban districts. States can help equalize access to professional development by ensuring that regional professional development institutions are located and funded to improve opportunities for underserved schools and districts.

State Trends

States and districts are all over the map when it comes to policies affecting professional development. Both North and South Carolina invest in professional development at the state level. Thirty-five states encourage professional development opportunities using comprehensive school reform models and federal Title I funds.

Ohio is among states revising requirements for continuing licensure to promote more growth-oriented professional development instead of simply mandating a certain number of continuing education units or advanced degrees. Teachers are required to formulate individual career plans that specify how various kinds of professional development will address specific deficiencies in their knowledge or skills or help them realize career aspirations. No state has gone so far as to give equal weight to the more traditional requirements for continuing licensure and advanced status – in particular graduate coursework and degrees – and the informal, standards-based and performance improvement-oriented professional development that research shows to be effective.

With increasing frequency, states such as Kentucky are offering teachers incentives to seek National Board certification. Many teachers report that National Board certification is one of the most effective professional development opportunities they have experienced. Arizona gives National Board-certified teachers who move from other states full and immediate license reciprocity.

At the school level, some principals and teacher leaders can take control of their professional development time and resources to create an effective learning environment for the adults in the school. Still, in the majority of schools and districts, professional development remains fragmented and driven primarily by programmatic interests rather than by district priorities or school and teacher needs. Given such fragmentation, professional development is likely to have little or no impact on how teachers teach and, consequently, on how students learn.

3 SOME HELPFUL RESOURCES

Related Resources

Organization Web sites:

- *Education Week* Issue Page on Professional Development: www.edweek.org/context/topics/issuespage.ctm?id=16
- Interstate New Teacher Assessment and Support Consortium: www.ccsso.org/intasc.html
- National Board for Professional Teaching Standards: www.nbpts.org
- National Staff Development Council: www.nsdc.org
- North Central Regional Educational Laboratory Pathways to School Improvement: www.ncrel.org/sdrs/areas/pd0cont.htm

Other resources:

- *Transforming Professional Development for Teachers: A Guide for State Policymakers* (1995). National Governors' Association. Can be ordered through the NGA bookstore at 301-498-3738.
- *State Policy on Professional Development: Rethinking the Linkages to Student Outcomes* (1999). North Central Regional Educational Laboratory. Can be ordered from the NCREL Web site at www.ncrel.org/catalog/
- *How To Rebuild a Local Professional Development Infrastructure* (1997). New American Schools. Can be downloaded from the NAS Web site at www.naschools.org/resource/howto/haslam.pdf
- *Teacher Preparation and Professional Development: A View from the Corporate Sector* (1999). Education Commission of the States. Can be ordered from ECS at 303-299-3646.

STRATEGY 4

Redesign teacher accountability systems to ensure that all teachers possess the skills and knowledge they need to improve student learning.

4

Policy Options

Best-Supported

Define "quality teaching" and the means to demonstrate achievement.

Without clear statements regarding the role of subject-matter mastery, the necessity of multiple instructional strategies, and teachers' role and responsibility for increasing student achievement, it is difficult to establish a teacher accountability system. The nation's experience with student achievement standards illustrates the need to define the goals before attempting to assess whether they have been achieved.

Link teacher accountability to student achievement results.

Though assessment system metrics are not yet perfect, it is part of every teacher's job to raise the academic achievement of the students they teach. This component of teacher accountability should not be the only measure of teacher performance, but it is certainly key. Moreover, a complete accountability system establishes appropriate accountability for both teachers and the entire school. States should develop the means to produce and share the type of information teachers need to monitor their students' progress effectively or schools need to link data on teacher performance with data on student achievement.

Overhaul teacher licensure and credentialing to tighten the connections between the license and the characteristics of a quality teacher.

In most states, initial and continuing licenses are related only tangentially to the goal of placing a quality teacher in every classroom. States need to work together to standardize and, in many cases, reduce the number of certificates and focus the qualifications for teachers. One approach would be to base the new system on the certification areas outlined by the National Board for Professional Teaching Standards and the related Interstate New Teacher Assessment and Support Consortium. Using such standards would have the added advantage of increasing the focus on subject-area knowledge, to which too little attention is paid in the licensing process. Finally, any new system of licensure should rid itself of the overly bureaucratic and often redundant aspects of the current system. The issuance of teacher licenses could be moved out of the state education department to another agency or perhaps to an independent state teacher standards board.

Develop and strengthen data-collection and data-management efforts needed to support a results-oriented accountability system for teachers.

Student achievement standards, and the accountability systems that enforce them, have become the engine of education reform in the United States. An increasing number of states are using the results of assessments based on student standards to issue reports on individual schools. At least some component of teacher accountability systems also should be linked to K-12 standards and data on student achievement. States must develop and implement the information systems necessary to make that link possible. While this will not be easy, little progress will be made on teacher accountability until everyone from the parent to the teacher to the superintendent to the legislator has access to and uses data more effectively and efficiently.

Policy Options

Less-Supported

Ensure teachers have easy access to better information and know how to use it.

Just demanding that teachers help students achieve at higher levels will not produce the desired results. Teachers need three things to accomplish these results:

- Access to appropriate information about how to improve instruction
- The requisite professional development on how to use the information
- The time to put what they learn into practice.

Specifically, teachers need information on standards, examples of student work that meets the standards, model lesson plans and timely access to student test results. They need access to

and knowledge of how to use computer databases and other tools that can make their work more effective. And every teacher and school needs to have the essential information about their school's and students' performance. Ultimately, districts, schools and school staff must decide the most appropriate ways to use this information on a day-to-day basis to improve student achievement.

Policy Options

Supporting Evidence

The emerging research is clear: High-quality teachers for all classrooms and linking teacher accountability to student achievement contribute significantly to student success.

States traditionally have relied on initial licensure and ongoing classroom evaluation to ensure teacher quality and accountability. But there are a number of shortcomings associated with the current approach:

- States vary in the number, type and duration of licenses they issue.
- States and districts still tie license renewal to such measures as satisfactory performance ratings by principals. The criticisms of this process are well-documented – reliance on standardized checklists, a limited amount of classroom observation, and little time devoted to understanding and acting upon results.
- States and districts link license renewal to the accumulation of academic credits without appropriate attention to the relationship among the credits earned, a teacher's individual needs, and school or district needs.

There are significant areas of consensus about how to address teacher quality and accountability. There is growing agreement, for example, that the current practice of allowing significant numbers of students to be taught by teachers who are teaching out of their subject field should be stopped. There is also agreement that requirements should be imposed to limit the issuance of emergency or provisional certificates and that persons receiving such licenses should be required to become fully certified within a specified period of time.

In addition, experts agree that assessing teacher skills and content knowledge is an appropriate state function as part of the licensing process, and that the licensing process should support a teacher's continual acquisition of content knowledge throughout his or her career. Unfortunately, there is less agreement on how to evaluate teachers' performance and professional growth reliably and fairly, and who should be responsible for such evaluations.

While concerns remain about tying a teacher's evaluation to his or her students' performance, the "value-added" approach pioneered by William Sanders at the University of Tennessee is gaining some acceptance. His assessment addresses the frequently cited criticism that teachers who start out with low-performing students are penalized if they are evaluated on the basis of student achievement rather than student progress.

Sanders' approach addresses concerns voiced in public opinion polls. These polls indicate the public is reluctant to judge teachers exclusively on student test results, recognizing that factors such as previous teachers, family background, parental involvement and student readiness to learn affect how well students do in school.

Significant progress in data collection and integration is required, however, before consensus can be reached about how to tie teacher effectiveness to student performance.

State Trends

For continuing certificates, states and districts use a variety of strategies. Some states still have lifetime certificates, including New York and New Jersey. In other states, continuing certificates are based on a teacher's record of service and ongoing accumulation of professional development credits from colleges, school districts or as approved by state agencies. West Virginia and other states recognize the accumulation of continuing education credits tied to an individual school's needs. Eighteen states have adopted the concept of a universal credential sponsored by the National Board for Professional Teacher Standards to demonstrate high levels of accomplishment.

One issue of licensure centers around whether it is necessary to establish a separate credentialing or licensing agency. Today, existing K-12 and higher education boards or agencies carry out most of these functions. But 24 states have established advisory

boards or commissions, and 16 have established autonomous state credentialing or standards boards. Conclusive data are not yet available on whether such approaches have enhanced teacher quality and accountability, but preliminary information from Indiana suggests such strategies show promise.

Creating a fair and reliable link between teacher accountability and student achievement requires states or districts to have either a way to manage multiple examples of student work or achievement test results for every student linked to the state's standards. To date, there are no examples of schools or districts managing multiple examples of student work or portfolios in an effective and efficient manner. (A private company, Edmin.com, has put together an impressive electronic package for tracking multiple measures of performance and is offering it to school districts.)

Only 16 states have established an assessment data system that would allow them to create a value-added approach to student achievement. None, however, tests frequently enough to link student results to an individual teacher. Though many policymakers claim they want their state to be like Texas, Tennessee, North Carolina and Maryland – states with extensive assessment infrastructures – most would have to make significant investments in data management and other systems to take the next step.

Nevertheless, several states, Utah and Georgia among the most recent, have enacted teacher accountability laws that tie teacher pay to student test gains. Kentucky, North Carolina and Maryland provide incentives that give extra money to schools with high student achievement.

Some states and districts have distributed paper copies of the state standards to virtually every teacher in every district. This stack of documents, however, has proved ineffective in transforming teacher practice. Teachers need additional related information, as well as effective professional development and good diagnostic tools to make the standards real for their students.

Some states are working with private business to integrate such tools into the classroom and share them with teachers electronically. Florida, Illinois, Massachusetts, Vermont and Washington are leaders in this field. For example, the Illinois State Board of Education has an online marketplace for educators to share lesson plans, instructional techniques, assessment prototypes, samples of exemplary student work and recommended teaching materials.

4 SOME HELPFUL RESOURCES

Related Resources

Organization Web sites:

- Achieve: www.achieve.org
- Annenberg Institute for School Reform: www.aisr.brown.edu/accountability/index.html
- Baldrige in Education Initiative (National Alliance of Business): www.nab.com/content/educationimprovement/qualitymanagement_baldrige/index.htm
- *Education Week* Issue Page on Accountability: www.edweek.org/context/topics/issuespage.cfm?id=41
- Just for the Kids: www.just4kids.org
- New Ohio Institute: www.newohio.org
- Teacher Quality Clearinghouse: www.tqclearinghouse.org/
- West Ed: www.wested.org/asds/

Other resources:

- *Dispelling the Myth: High-Poverty Schools Exceeding Expectations* (1999). Education Trust in Cooperation with the Council of Chief State School Officers. Can be downloaded from the Education Trust Web site at www.edtrust.org/pubs-online.html
- "High-Stakes Testing: Too Much? Too Soon?" (2000, Winter) *State Education Leader*. Education Commission of the States. Can be ordered from ECS at 303-299-3692
- *Pay-for-Performance: An Issue Brief for Business Leaders* (2000). National Alliance of Business. Can be downloaded from the NAB Web site at www.nab.com/content/educationimprovement/teacherquality/PFP.htm
- *Reinventing Teacher Compensation Systems* (1996). Consortium for Policy Research in Education. Can be downloaded from the CPRE Web site at www.gse.upenn.edu/cpre/frames/pubs.html
- *Teacher Pay for Performance* (2000). National Conference of State Legislatures. Can be ordered through the NCSL Web site at: www.ncsl.org/public/catalog/pubs.cfm?topic=Education&topiccode=xxdu
- *The New Accountability* (1988). Consortium for Policy Research in Education. Can be downloaded from the CPRE Web site at www.gse.upenn.edu/cpre/frames/pubs.html

STRATEGY 5

Develop and support strong school and district leadership statewide focused on enhancing the quality of student learning and teacher instruction.

5

Policy Options

Less-Supported

(Note: Because there is no strong evidence or consensus supporting particular strategies for developing leadership focused on quality teaching, the policy options listed here are the "less-supported" ones.)

Focus public and policymaker attention on the issues of school and district leadership.

Leadership is just coming into its own as a critical issue in education reform and a key consideration in relation to quality teaching. Policymakers and the public need to understand the importance of the issue and its many dimensions if they are to give it the attention it deserves and support the development and implementation of appropriate policies and strategies.

Develop licensure policies, performance expectations and accountability mechanisms for school principals and administrators that are consistent with and promote their role as instructional leaders.

Education administrators have to ensure that teachers in their districts and schools are successful and that school environments support student learning and teacher professional development. A state-enforced accountability system that is based on student achievement and holds principals accountable for performance expectations in individual schools is one mechanism to promote an emphasis on teaching. Other rewards and incentives should emphasize school administrators' responsibility for instructional leadership. In addition, states should ensure that licensure requirements for principals demand skills and knowledge consistent with the instructional leadership role, even if others in the school have that role.

Develop policies that ensure administrators can be effective and that the responsibilities for instructional leadership are not eclipsed by other administrative priorities.

This may require an increase in funding for administrative staff positions to divide responsibilities among several individuals, as well as a redefinition of the principal's role. It could involve a system of what Harvard Education Professor Richard Elmore calls "distributive leadership" in which some of the instructional leadership responsibilities traditionally reserved for principals are delegated to senior teachers. It also may require more aggressive measures, financial and otherwise, to ensure that the individual school environment is conducive to effective leadership and teaching.

Offer incentives, including higher pay and career growth opportunities, to attract capable people into administration.

The difficulty many schools face in finding well-qualified teachers carries over into the principalship. Experts cite an increasing difficulty finding well-qualified candidates and an increasingly short tenure for those who do become principals. Equally problematic, especially in this era of individual school accountability, is the fact that principals face increased expectations from all quarters and more frequent litigation.

Unfortunately, an accountability system that would hold principals responsible for student learning may deter some people from becoming principals. Indeed, hard-to-staff schools are experiencing more and more difficulty finding and retaining good principals for the same reason they have difficulty securing good teachers. It may be necessary to increase the salary and potential rewards for principals who accept the most difficult and challenging assignments. Also important are efforts to increase the number of women – especially minorities – in the principalship.

Improve preparation programs for school principals and other administrators.

By most accounts, the postsecondary programs that prepare school administrators are inadequate. They often lack sufficient practical training and fail to give school administrators the leadership and management skills they need to succeed. State policymakers can play an important role in improving these preparation programs by demanding a more rigorous and relevant curriculum aligned with state administrator licensure requirements and focused on the enhancement of student achievement and teacher effectiveness.

STRATEGY 5

5

Consider alternative preparation and certification programs for principals and other administrators.

This approach makes sense for principals as well as teachers. Some administrator candidates, because of prior background or natural inclination, already possess many skills and characteristics that would make them successful school or district leaders. Their prior abilities should be taken into account in assessing their readiness to assume administrative positions.

Support ongoing, high-quality professional development for school administrators.

A changing student population, technological innovation, new information about teaching and learning, evolving student standards and changing expectations demand ongoing training and learning for principals and other administrators, as well as teachers. State policymakers may be able to use requirements for continuing licensure to align the professional development of school administrators with school improvement goals – just as states are beginning to do with professional development for teachers.

Policy Options

Supporting Evidence

School leadership only recently has begun to receive the attention it deserves as an education reform and policy issue. As yet, there is no strong research base to document various improvement strategies, but in the past year several major foundations have launched independent efforts to promote research and improved practice in the field. In addition, groups such as the National Association of Secondary School Principals, the National School Boards Association and the National Policy Board for Educational Administration have issued recommendations that touch on the important issues involved. These reports commonly draw parallels between strategies advocated to improve teaching and those considered important to improve education leadership. Similarly, the Interstate School Leaders Licensure Consortium has issued standards for school leaders just as the Interstate New Teacher Assessment and Support Consortium has for teachers.

The recommendations offered here are based largely on a consensus of such reports and on discussions by various experts in the field. While somewhat preliminary, they are fruitful directions for policymakers to follow in the absence of the more grounded recommendations concerning leadership that are certain to emerge over the next three to five years.

A number of important questions, however, remain largely unanswered and ultimately have important implications for state policy.

- To what extent, for example, is it necessary for principals and superintendents to have been classroom teachers?
- In general, what experience and qualities are essential for effective school leaders?
- Is it realistic to expect principals to be instructional leaders given the competing demands on their time, or should a new position dedicated solely to instructional leadership be developed and instituted in the schools?
- Can the many responsibilities of education leadership be carried out effectively under the present school- and district-level administrative structures, or is a major reorganization needed, including changes in governance?
- Are there special skills and talents school administrators need to succeed in hard-to-staff and low-performing schools?

State Trends

As the issue of leadership grows more prominent nationally, many states and districts are beginning to look at various measures to improve school administration.

Some, such as Boston and New York City, are adopting recruitment incentives to lure people into administration, including signing bonuses and salary increases. Oklahoma is among states that have restructured administrator licensure requirements and are wrestling with the issue of what experience and qualifications principals and superintendents need.

SOME HELPFUL RESOURCES

Other states are improving administrator preparation programs. Louisiana has established "principals' academies" or "principals' institutes" at public universities. These programs are generally master's degree programs for working educators and often focus on preparing administrators to work in hard-to-staff schools.

Philadelphia is taking steps to cultivate senior teachers or lower-level administrators for the principalship through alternative preparation or apprenticeship programs. Alabama is developing mentoring programs for new principals along the line of induction programs for new teachers.

In addition, districts increasingly are linking student and school performance to principals' salary increases.

Related Resources

Organization Web sites:

- Institute for Educational Leadership: www.iel.org
- Interstate School Leaders License Consortium: www.ccsso.org/isllc.html

Other resources:

- *Principals of Change* (1999). National Association of State Boards of Education. Can be downloaded from the NASBE Web site at www.nasbe.org/catalog.html
- *The Importance of Leadership: The Role of School Principals* (1999). The PricewaterhouseCoopers Endowment for The Business of Government. Can be downloaded from the PWC Web site at www.endowment.pwcglobal.com/pdfs/import_of_leadership.pdf
- *Effective Leaders for Today's Schools: Synthesis of a Policy Forum on Educational Leadership* (1999). U.S. Department of Education, Office of Educational Research and Improvement. Can be downloaded from the U.S. Department of Education Web site at: www.ed.gov/pubs/EffectiveLeaders/purpose-structure.html

CONCLUSION

As noted at the outset of this report, good teaching is a make-or-break factor in how well students learn. It is the responsibility of state and district policymakers and educators to take the lead in making sure all teachers have the skills, knowledge and support they need to succeed. To exercise this responsibility effectively, the following policy themes and issues must be addressed:

- Define quality teaching and collect the data and other information needed to show whether the desired level of quality is being achieved. Without substantial agreement on at least a number of key indicators, states are not likely to be able to sustain progress. The ability of most states and districts to do so likely will depend upon their willingness to make significant changes in policies and practices relating to the quality of teaching. In addition, most states will need to develop a much more thorough and sophisticated data-collection and analysis system, including information related to student and teacher performance, teacher and administrator supply and demand, and the state's professional development capacity.

- Use the definition of quality teaching as a focal point of decision-making by both policy leaders and practitioners. This means creating processes on all levels that have as their primary rationale the enhancement of teacher quality and capacity and the improvement of student achievement. In virtually every state and district today, the system for assuring quality teaching is an artifact of tradition, administrative convenience and diffused decisionmaking.

- Link part of the definition of quality teaching to student achievement results. As assessments of student progress become more closely linked to student standards and as data-processing systems track individual student achievement gain scores over time, student achievement results should become part of the criteria for evaluating teachers' performance. Sanders' valued-added approach offers one vehicle for making such a link, but even that approach needs to be refined.

- Make a focus on hard-to-staff schools and districts a top policy priority, especially for improving the quality of teaching. If the public education system is to serve all students adequately and fairly, hard-to-staff schools must be given the most urgent attention. Many minority and poor students attend such schools, and the gap between their achievement and that of wealthier majority students will only increase if their teachers are not well-qualified and supported. Some experts, in fact, believe that the lowest-achieving students require even more skilled teachers than higher-performing students.

- Undertake and foster additional research that provides stronger evidence regarding various strategies and programs to improve the quality of teaching. In most areas that relate to quality teaching, the research evidence is thin – if it exists, at all. Moreover, little research is accepted as authoritative and convincing by all experts. A research agenda is needed to address the most critical questions, including what it would take to scale up promising programs and what it would cost to implement various programs and policy strategies.

Trends

The strategies and policy options offered in this report are suggested as a response to current policy discussions about the quality of teaching and to the education realities in the states. Those realities are changing, however, and efforts to ensure quality teaching must take into account emerging ideas and trends. These trends include the following:

- *The entry of private-sector providers into the quality teaching arena.* The impact of these providers on state and district efforts to improve the quality of teaching needs to be monitored and evaluated.

- *The development of sophisticated technology applications and delivery systems as tools for teachers.* These systems can place at a teacher's fingertips information on standards, curriculum materials, lesson plans, examples of refereed student work and alternative assessment tools. The adoption of these technology tools, coupled with an

electronic means of delivery, could quickly increase the capacity of today's teachers and redefine notions of evaluation and professional development.

- *Alternative routes into the teaching profession.* Though current information certainly does not support a full endorsement of every alternative program, many such programs have proved successful and challenge current thinking about the content and structure of teacher preparation and licensure. Close attention to existing alternatives, plus additional experimentation and research, will yield better information on how to use alternative strategies to increase the quality and quantity of teachers entering the profession and respond to the needs of schools and districts not well-served by more traditional routes.

- *The increasing penetration of private-sector practices into the institutional environment of education.* The influence of such practices on the business of education is increasing and has fundamental implications for education policy. With regard to the quality of teaching, the most significant practices include: the emphasis on performance and accountability; the turn toward data-driven decisionmaking; the reliance on market-like strategies in teacher recruitment and compensation, including pay-for-performance; the increasing flexibility and the openness to nontraditional providers – including for-profit companies – in teacher education and training; and the growing call for devolution of authority and responsibility to the local building level.

- *Greater flexibility and experimentation in union contracts and collective bargaining.* Many of the newer ideas and trends – recruitment incentives, market-driven salaries, pay and promotion based on demonstrated skill and performance, and alternative routes into the teaching profession – cannot be readily accommodated by present union contracts and collective-bargaining practices. In addition, many union contracts make it difficult to adjust teachers' work schedules and calendars to allow for more innovative approaches to professional development. Likewise, traditional seniority structures thwart efforts to improve hiring and placement and ensure that hard-to-staff schools have experienced, well-qualified teachers and administrators. Districts such as Seattle, Rochester, New York, Cincinnati and Denver have taken the lead in negotiating innovative union contacts, and others are beginning to follow.

Enhancing the quality of teaching is complicated in both policy and practice. ECS and the advisory panel hope that this publication will provide a pathway through the complexity. Beyond this effort, ECS is committed to providing balanced and updated information to state policymakers and others on the issues involved and to sharing its thinking about the policies and strategies most likely to address them successfully.

ADDITIONAL REFERENCES

American Federation of Teachers (1999). *Teaching Reading Is Rocket Science*. Washington, DC: American Federation of Teachers.

Belden, Nancy, and Plattner, Andy (1999). *Teacher Quality: A Review of Existing Survey Data*. Denver, CO: Education Commission of the States.

Boston Plan for Excellence (1999). *Professional Development Spending in the Boston Public Schools*. Boston, MA: Boston Plan for Excellence and the Boston Public Schools.

Bradley, Ann (2000, March 29). "For-Profits Tapping Into Teacher Training," *Education Week*, vol. 19, no. 29, pp. 1, 14.

Center for Workforce Development (1998). *The Teaching Firm: Where Productive Work and Learning Converge*. Newton, MA: Education Development Center.

Clewell, Beatriz Chu; Darke, Katherine; et al. (2000). *Literature Review on Teacher Recruitment Programs*. Washington, DC: Policy Studies Associates.

Consortium on Productivity in the Schools (1995). *Using What We Have To Get the Schools We Need: A Productivity Focus for American Education*. New York, NY: Teachers College Institute for Education and the Economy.

Corcoran, Thomas B. (1998). *Effective Professional Development Systems (Draft)*. Philadelphia, PA: Author.

Corcoran, Thomas B. (1995). *Helping Teachers Teach Well: Transforming Professional Development*. New Brunswick, NJ: Consortium for Policy Research in Education.

Darling-Hammond, Linda (1999). *Teacher Quality and Student Achievement: A Review of State Policy Evidence*. Seattle, WA: University of Washington Center for the Study of Teaching and Policy.

Darling-Hammond, Linda (1997). *Doing What Matters Most: Investing in Quality Teaching*. New York, NY: National Commission on Teaching and America's Future.

Darling-Hammond, Linda, and Ball, Deborah Loewenberg (1998). *Teaching for High Standards: What Policymakers Need To Know and Be Able To Do*. Philadelphia, PA: National Commission on Teaching and America's Future & Consortium for Policy Research in Education.

Education Commission of the States (1999). *Governing America's Schools: Changing the Rules*. Denver, CO: Education Commission of the States.

Education Commission of the States (1997). *Investing in Teacher Professional Development*. Denver, CO: Education Commission of the States.

Education Development Center (1999). *Improving Teacher Preparation Programs: A Briefing Paper for Funders*. Newton, MA: Education Development Center.

Elmore, Richard F., with Burney, Deanna (1997). *Investing in Teacher Learning: Staff Development and Instructional Improvement in Community School District #2, New York City*. New York, NY: National Commission on Teaching and America's Future & Consortium for Policy Research in Education.

Elmore, Richard F. (2000). *Building a New Structure for School Leadership*. Washington, DC: Albert Shanker Institute.

Farkas, Steve; Johnson, Jean; and Foleno, Tony (2000). *A Sense of Calling: Who Teaches and Why*. New York, NY: Public Agenda.

Ferguson, Ronald F. (1991) "Paying for Public Education: New Evidence on How and Why Money Matters," *Harvard Journal on Legislation*, vol. 28, no. 2, pp. 465-490.

Guskey, T.R. (1998). "The Age of Accountability," *Journal of Staff Development*, vol. 19, no. 4, pp. 36-44.

Hirsch, Eric and Samuelsen, Shelby (2000). *Teaching in Colorado: An Inventory of Policies and Practices*. Denver, CO: National Conference of State Legislatures.

Hodgkinson, Harold L. (1999). *All One System: A Second Look*. Washington, DC: Institute for Educational Leadership & The National Center for Public Policy and Higher Education.

Ingersoll, Richard M. (1999). *Teacher Turnover, Teacher Shortages and the Organization of Schools*. Seattle, WA: University of Washington Center for the Study of Teaching and Policy.

Ingersoll, Richard M. (1999). "The Problem of Underqualified Teachers in American Secondary Schools," *Educational Researcher*, vol. 28, no. 2, pp. 26-37.

Kerchner, Charles Taylor; Koppich, Julia K.; and Weeres, Joseph G. (1998). *Taking Charge of Quality: How Teachers and Their Unions Can Revitalize Schools*. Washington, DC: National Education Association.

Killion, Joellen (1999). *What Works in the Middle: Results-based Staff Development*. Oxford, OH: National Staff Development Council.

Klagholz, Leo (2000). *Growing Better Teachers in the Garden State: New Jersey's Alternate Route to Teacher Certification*. Washington, DC: Thomas B. Fordham Foundation.

Linn, Robert L. (2000). "Assessments and Accountability," *Education Researcher*, vol. 29, no. 2, pp. 4-16.

Little, Judith Warren (1994). "Teachers' Professional Development in a Climate of Educational Reform," in *Systemic Reform: Perspectives on Personalizing Education*. Washington, DC: U.S. Department of Education.

Mathers, Judith K. (1999). "How Teachers View Performance-Based Accountability: A Colorado Survey," *School Business Affairs*, vol. 65, no. 8, pp. 8-14.

Miller, Patricia S., and Stayton, Vicki D. (1999) "Higher Education Culture – A Fit or Misfit with Reform in Teacher Education?" *Journal of Teacher Education*, vol. 50, no. 4, pp. 290-302.

Morgan, Jacel (1999). *The Development and Evaluation of the Houston ISD Alternative Certification Program*. Los Angeles, CA: Tomas Rivera Policy Institute.

Murray, Frank B. (2000). "The Role of Accreditation Reform in Teacher Education," *Educational Policy*, vol. 14, no. 1, pp. 40-59.

National Education Commission on Time and Learning (1994). *Prisoners of Time*. Washington, DC: National Education Commission on Time and Learning.

Nadelstern, Eric; Price, Janet R.; and Listhaus, Aaron. (2000). "Student Empowerment Through the Professional Development of Teachers," in Glanz, Jeffrey, and Behar-Horenstein, Linda S. (eds.), *Paradigm Debates in Curriculum and Supervision: Modern and Postmodern Perspectives*. Wesport, CT: Bergin & Garvey.

National Research Council (2000). *Tests and Teaching Quality: Interim Report*. Washington, DC: National Research Council.

National Teacher Policy Institute (2000). *What Matters Most: Improving Student Achievement*. New York, NY: The Teachers Network.

Odden, Allen (2000). "New and Better Forms of Teacher Compensation Are Possible," *Phi Delta Kappan*, vol. 81, no. 5, pp. 361-366.

Sanders, William L., and Rivers, J.C. (1996). *Cumulative and Residual Effects of Teachers on Future Student Academic Achievement*. Knoxville, TN: University of Tennessee Value-Added Research and Assessment Center.

Scannell, Marilyn M., and Metcalf, Philip L. (2000). "Autonomous Boards and Standards-Based Teacher Development," *Educational Researcher*, vol. 14, no. 1, pp. 61-76.

Stigler, James W., and Hiebert, James (1999). *The Teaching Gap*. New York, NY: The Free Press.

Thiessen, Dennis (2000). "Developing Knowledge for Preparing Teachers: Redefining the Role of Schools of Education," *Educational Researcher*, vol. 14, no. 1, pp. 129-144.

Urbanski, Adam, and Erskine, Roger (2000). "School Reform, TURN and Teacher Compensation," *Phi Delta Kappan*, vol. 81, no. 5, pp. 367-370.

Wilson, S.M., and Berne, J. (1999). "Teacher Learning and the Acquisition of Professional Knowledge: An Examination of Research on Contemporary Professional Development," in A. Iran-Nejad and P.D. Pearson (eds.), *Review of Research in Education*. Washington, DC: American Educational Research Association.

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